(5)

N.C. Dept. of Environment, Health and Natural Resources
Division of Laboratory Services
State Laboratory of Public Health
P.O. Box 28047, Raleigh, N.C. 27611

Environmental Sciences Analysis Report

Name of Owner, Patient or Supply: _____

Address: _____

County: Guilford

Report To: John Nantz

Address: Po Box 3508

Greensboro. NC. 27401

Date Collected: 12-5-89

Collected By: _____

Analysis Desired: VOC

Note:
* Teflon liners in both VOAs inverted. Suggest resampling to confirm these results.

Laboratory Number	Sample Number	Sample Description or Remarks	Results In
903631		1C ✓	
903632		2C ✓	
903633		3C ✓	
903634		4C ✓	
903635		5C ✓	
903636		6C ✓	
903637		7C ✓ 6301 Burnt Poplar	
903638		8C ✓	
903639		9C ✓	
903640		10C ✓	
903641		11C ✓	
* 903642		12C ✓	

Date Received 12-11-89 MW, JM

Date Extracted _____

Date Reported 12-21-89

Date Analyzed 12/15-12/18/89 JM

Reported By: John L. Neal

DEHNR Form 2364 Revised (9-89)
Laboratory

N.C. Dept. of Environment, Health and Natural Resources
Division of Laboratory Services
State Laboratory of Public Health
P.O. Box 28047, Raleigh, N.C. 27611

Environmental Sciences Analysis Report

Name of Owner, Patient or Supply: _____

Address: _____

County: _____

Report To: _____

Address: _____

_____

Date Collected: _____

Collected By: _____

Analysis Desired: _____

Laboratory Number	Sample Number	Sample Description or Remarks	Results In
1C J	903631	604 HICKORY RIDGE	✓
2C J	903632	608 HICKORY RIDGE	✓
3C J	903633	626 HICKORY RIDGE	✓
4C J	903634	6373 BURNT POPLAR	✓
5C J	903635	623 HICKORY RIDGE	✓
6C J	903636	605 HICKORY RIDGE	✓
7C J	903637	6301 BURNT POPLAR	✓
8C J	903638	505 CHIMNEY ROCK RD	✓
9C J	903639	611 HICKORY RIDGE	✓
10C J	903640	620 HICKORY RIDGE	✓
11C J	903641	612 HICKORY RIDGE	✓
12C J	903642	6327 BURNT POPLAR	

Date Received _____ Date Reported _____

Date Extracted _____ Date Analyzed _____

Reported By: _____

DEHNR Form 2364 Revised (9-89)
Laboratory

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES, N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 - 306 N. WILMINGTON ST, RALEIGH, N.C. 27611

ORGANIC CHEMICAL ANALYSIS ✓ Date of Analysis 12/15/89

PURGEABLE COMPOUNDS	MDL	Lab No.	903631	903632	903633	903634	903635
		Field #					
		Type	(1)	(1)	(1)	(1)	(1)
COMPOUND		Units	ug/l ug/kg	ug/l ug/kg	ug/l ug/kg	ug/l ug/kg	ug/l ug/kg
Dichlorodifluoromethane	1	ppb	U	U	U	U	U
Chloromethane							
✓Vinyl Chloride							
Bromomethane							
Chloroethane							
Trichlorofluoromethane							
✓1,1-Dichloroethylene							
Methylene Chloride							
tert-Butyl Methyl Ether							
(Trans)1,2-Dichloroethylene							
Isopropyl ether				↓			
1,1-Dichloroethane				1K			
2,2-Dichloropropane				U			
(Cis) 1,2-Dichloroethylene							
Chloroform							
(BCM) Bromochloromethane							
✓1,1,1-Trichloroethane							
1,1-Dichloropropene							
✓Carbon Tetrachloride							
✓Benzene							
✓1,2-Dichloroethane							
✓Trichloroethylene							
1,2-Dichloropropane							
Bromodichloromethane							
Dibromomethane							
Toluene							
1,1,2-Trichloroethane							↓
Tetrachloroethene							1K
1,3-Dichloropropane							U
Dibromochloromethane							
1,2-Dibromoethane (EDB)							
1-Chlorohexane	↓	↓	↓	↓	↓	↓	↓

COMMENTS:

J - Estimated value.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
U - Material was analyzed for but not detected.
NA - Not analyzed.
1/ - Tentative identification.
MDL - Minimum Detection Limit for water (EPA Method 502.2), µg/l.
✓ - Regulated VOC
T - Trihalomethane

N.C. Division of Health Services
DHS 3068-O (4/88 Laboratory)

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES, N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 - 306 N. WILMINGTON ST, RALEIGH, N.C. 27611

ORGANIC CHEMICAL ANALYSIS

PURGEABLE COMPOUNDS / COMPOUND	MDL	Lab No.	903631	903632	903633	903634	903635
		Field #					
		Type	(1)	(1)	(1)	(1)	(1)
		Units	ug/l ug/kg	ug/l ug/kg	ug/l ug/kg	ug/l ug/kg	ug/l ug/kg
Chlorobenzene	1	ppb	U	U	U	U	U
Ethylbenzene							
1,1,1,2-Tetrachloroethane							
p-Xylene							
m-Xylene							
o-Xylene							
Styrene							
Bromoform							
Isopropylbenzene							
1,1,2,2-Tetrachloroethane							
Bromobenzene							
n-Propylbenzene							
1,2,3-Trichloropropane							
2-Chlorotoluene							
1,3,5-Trimethylbenzene							
4-Chlorotoluene							
(Tert) Butyl Benzene							
Pentachloroethane							
1,2,4-Trimethylbenzene							
(Sec) Butyl Benzene							
p-Isopropyltoluene							
1,3-Dichlorobenzene							
✓1,4-Dichlorobenzene							
n-Butylbenzene							
1,2-Dichlorobenzene							
(Bis) 2 Chloroisopropyl Ether							
1,2-Dibromo-3 Chloropropane							
1,2,4-Trichlorobenzene							
Hexachlorobutadiene							
Naphthalene							
1,2,3-Trichlorobenzene	✓	✓	✓	✓	✓	✓	✓

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N.C. Division of Health Services
DHS 3068-O (4/88 Laboratory)

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DIVISION OF HEALTH SERVICES, N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 - 306 N. WILMINGTON ST, RALEIGH, N.C. 27611

ORGANIC CHEMICAL ANALYSIS / Date of Analysis 12/15-12/18/89

PURGEABLE COMPOUNDS / COMPOUND	MDL	Lab No.	903636	903637	903638	903639	903640
		Field #	6C	7C	8C	9C	10C
		Type	(I)	(I)	(I)	(I)	(I)
		Units	(ug/l) ug/kg	(ug/l) ug/kg	(ug/l) ug/kg	(ug/l) ug/kg	(ug/l) ug/kg
Dichlorodifluoromethane	1	ppb	U	U	U	U	U
Chloromethane							
✓Vinyl Chloride							
Bromomethane							
Chloroethane							
Trichlorofluoromethane							
✓1,1-Dichloroethylene							
Methylene Chloride							
tert-Butyl Methyl Ether							
(Trans) 1,2-Dichloroethylene							
Isopropyl ether							
1,1-Dichloroethane							
2,2-Dichloropropane							
(Cis) 1,2-Dichloroethylene							
Chloroform				120.4T			
(BCM) Bromochloromethane				U			
✓1,1,1-Trichloroethane			trace			1K	
1,1-Dichloropropene			U			U	
✓Carbon Tetrachloride							
✓Benzene							
✓1,2-Dichloroethane							
✓Trichloroethylene							
1,2-Dichloropropane							
Bromodichloromethane				5.5 T			
Dibromomethane				U			
Toluene							
1,1,2-Trichloroethane							
Tetrachloroethene			trace			trace	
1,3-Dichloropropane			U			U	
Dibromochloromethane				1.0 T			
1,2-Dibromoethane (EDB)				U			
1-Chlorohexane	↓	↓	↓	↓	↓	↓	↓

COMMENTS:

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N.C. Division of Health Services
DHS 3068-O (4/88 Laboratory)

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P.O. BOX 28047 - 306 N. WILMINGTON ST, RALEIGH, N.C. 27611

ORGANIC CHEMICAL ANALYSIS

PURGEABLE COMPOUNDS / COMPOUND	MDL	Lab No.	903636	903637	903638	903639	903640
		Field #					
		Type	(/)	(/)	(/)	(/)	(/)
		Units	(ug/l) ug/kg	(ug/l) ug/kg	(ug/l) ug/kg	(ug/l) ug/kg	(ug/l) ug/kg
Chlorobenzene	1	ppb	U	2.0 T	U	U	U
Ethylbenzene				U			
1,1,1,2-Tetrachloroethane							
p-Xylene							
m-Xylene							
o-Xylene							
Styrene							
Bromoform							
Isopropylbenzene							
1,1,2,2-Tetrachloroethane							
Bromobenzene							
n-Propylbenzene							
1,2,3-Trichloropropane							
2-Chlorotoluene							
1,3,5-Trimethylbenzene							
4-Chlorotoluene							
(Tert) Butyl Benzene							
Pentachloroethane							
1,2,4-Trimethylbenzene							
(Sec) Butyl Benzene							
p-Isopropyltoluene							
1,3-Dichlorobenzene							
✓1,4-Dichlorobenzene							
n-Butylbenzene							
1,2-Dichlorobenzene							
(Bis) 2 Chloroisopropyl Ether							
1,2-Dibromo-3 Chloropropane							
1,2,4-Trichlorobenzene							
Hexachlorobutadiene							
Naphthalene							
1,2,3-Trichlorobenzene	↓	↓	↓	↓	↓	↓	↓

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1/ - Tentative identification.
MDL - Minimum Detection Limit for water (EPA Method 502.2), µg/l.
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N.C. Division of Health Services
DHS 3068-O (4/88 Laboratory)

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DIVISION OF HEALTH SERVICES, N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 - 306 N. WILMINGTON ST, RALEIGH, N.C. 27611

ORGANIC CHEMICAL ANALYSIS

Date of Analysis 12/15-12/18/89

PURGEABLE COMPOUNDS / COMPOUND	MDL	Lab No.	903641	903642*			
		Field #	11C	12C			
		Type	( )	( )	( )	( )	( )
		Units	(ug/l) ug/kg	(ug/l) ug/kg	ug/l ug/kg	ug/l ug/kg	ug/l ug/kg
Dichlorodifluoromethane	1	ppb	U	U			
Chloromethane							
✓Vinyl Chloride							
Bromomethane							
Chloroethane							
Trichlorofluoromethane							
✓1,1-Dichloroethylene							
Methylene Chloride							
tert-Butyl Methyl Ether							
(Trans) 1,2-Dichloroethylene							
Isopropyl ether							
1,1-Dichloroethane			1K				
2,2-Dichloropropane			U				
(Cis) 1,2-Dichloroethylene							
Chloroform				trace T			
(BCM) Bromochloromethane				U			
✓1,1,1-Trichloroethane			1K	trace			
1,1-Dichloropropene			U	U			
✓Carbon Tetrachloride							
✓Benzene							
✓1,2-Dichloroethane				1K			
✓Trichloroethylene				U			
1,2-Dichloropropane							
Bromodichloromethane							
Dibromomethane							
Toluene							
1,1,2-Trichloroethane							
Tetrachloroethene			trace				
1,3-Dichloropropane			U				
Dibromochloromethane							
1,2-Dibromoethane (EDB)							
1-Chlorohexane	↓	↓	↓	↓			

COMMENTS:

*Liners in VOAs were inverted

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1/ - Tentative identification.
MDL - Minimum Detection Limit for water (EPA Method 502.2), µg/l.
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N.C. Division of Health Services
DHS 3068-O (4/88 Laboratory)

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P.O. BOX 28047 - 306 N. WILMINGTON ST, RALEIGH, N.C. 27611

ORGANIC CHEMICAL ANALYSIS

PURGEABLE COMPOUNDS	MDL	Lab No.	903641	903642			
		Field #					
		Type	( )	( )	( )	( )	( )
COMPOUND		Units	ug/l ug/kg	ug/l ug/kg	ug/l ug/kg	ug/l ug/kg	ug/l ug/kg
Chlorobenzene	1	ppb	U	U			
Ethylbenzene							
1,1,1,2-Tetrachloroethane							
p-Xylene							
m-Xylene							
o-Xylene							
Styrene							
Bromoform							
Isopropylbenzene							
1,1,2,2-Tetrachloroethane							
Bromobenzene							
n-Propylbenzene							
1,2,3-Trichloropropane							
2-Chlorotoluene							
1,3,5-Trimethylbenzene							
4-Chlorotoluene							
(Tert) Butyl Benzene							
Pentachloroethane							
1,2,4-Trimethylbenzene							
(Sec) Butyl Benzene							
p-Isopropyltoluene							
1,3-Dichlorobenzene							
✓1,4-Dichlorobenzene							
n-Butylbenzene							
1,2-Dichlorobenzene							
(Bis) 2 Chloroisopropyl Ether							
1,2-Dibromo-3 Chloropropane							
1,2,4-Trichlorobenzene							
Hexachlorobutadiene							
Naphthalene							
1,2,3-Trichlorobenzene	↓	↓	↓	↓			

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K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
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NA - Not analyzed.
1/ - Tentative identification.
MDL - Minimum Detection Limit for water (EPA Method 502.2), µg/l.
✓ - Regulated VOC
T - Trihalomethane

N.C. Division of Health Services
DHS 3068-O (4/88 Laboratory)

North Carolina Department of Human Resources
Division of Health Services
Environmental Epidemiology Branch
Drinking Water Health Risk Evaluation
General

DATE: 12/21/89 LABORATORY NUMBER 90363, 903633, 903634, 903638, 903640

(✓) Based on these analytical results, this water should be considered safe for normal usage.

( ) Chemical analysis did not show any contamination. Water should be resampled if odor or taste persists.

( ) The water should not be used for drinking or cooking purposes, avoid prolonged bathing/showering.

( ) Based on these analytical results, this water is highly contaminated and should not be used for drinking, cooking, or bathing/showering.

( ) The laboratory results are not conclusive, please resample:

PLEASE INDICATE ON LAB SHEET THAT IT IS A RESAMPLE AND PROVIDE PREVIOUS SAMPLE NUMBER(S).

(✓) Comments: No contamination was detectable in any of these samples.

For further information, contact Dr. Ken Rudo or Dr. Ted Taylor, Environmental Epidemiology Branch, (919) 733-3410.

DHS T474 (Revised 5/89)
Environmental Epidemiology Branch

North Carolina Department of Human Resources
Division of Health Service
Environmental Epidemiology Branch
Drinking Water Health Risk Evaluation For
Chlorinated Solvents

DATE: 12/21/89 LABORATORY NUMBER 903632, 903635, 903636, 903639, 903641, 903642*

Based on these analytical results, this water is contaminated with chlorinated solvents which have been widely used (both industrially and in home-use products) for many years. One chlorinated solvent, vinyl chloride, is known to cause cancer in humans. Many other chlorinated solvents have been shown to cause cancer in laboratory animals. However, none of these chemicals is known to cause cancer in humans.

Some chlorinated solvents have not been linked to cancer. For these chemicals, acceptable intake levels are much higher and are based on other health effects.

The U. S. Environmental Protection Agency has set maximum contaminant levels (MCL) for a number of chlorinated solvents. The MCL is the amount of a chemical that is considered acceptable in public drinking water supplies. The maximum contaminant level is not binding for users of private supply wells, but is a useful guideline.

Chemical	Maximum Contaminant Level (ppb)	This Well (ppb)
1,1,1-trichloroethane	200 ppb	trace - #903641, #903639, #903636
tetrachloroethene	5 ppb (proposed)	trace - #903641, #903639 #903636, #903635
chloroform	100 ppb (cities over 10,000 pop.)	trace - #903642
1,2-dichloroethane	5 ppb	<1 ppb - #903642
1,1-dichloroethane	no set limit	<1 ppb - #903632

(√) This water is acceptable for all uses due to the very low levels present.
(√) Resample in about 3 month(s). (PLEASE INDICATE ON LAB SHEET THAT IT IS A RESAMPLE AND PROVIDE PREVIOUS SAMPLE NUMBER(S).)

( ) This water is significantly contaminated and should not be used for drinking or cooking. Prolonged bathing/showering should be avoided.

( ) This water is highly contaminated and should not be used for drinking, cooking, or bathing/showering.

Comments: All compounds are chlorinated solvents with levels that your continued use of this water should not result in any significant health risk. Sample # 903642 may have contamination due to improper sampling (inverted teflon liner). Please resample within 3 months to verify this contamination's source.

For further information, contact Dr. Ted Taylor or Dr. Ken Rudo, Environmental Epidemiology Branch, (919) 733-3410.

DHS T476 (Revised 5/89)
Environmental Epidemiology Branch

North Carolina Department of Human Resources
Division of Health Service
Environmental Epidemiology Branch
Drinking Water Health Risk Evaluation For
Chlorinated Solvents

DATE: 12/21/89 LABORATORY NUMBER #903617

Based on these analytical results, this water is contaminated with chlorinated solvents which have been widely used (both industrially and in home-use products) for many years. One chlorinated solvent, vinyl chloride, is known to cause cancer in humans. Many other chlorinated solvents have been shown to cause cancer in laboratory animals. However, none of these chemicals is known to cause cancer in humans.

Some chlorinated solvents have not been linked to cancer. For these chemicals, acceptable intake levels are much higher and are based on other health effects.

The U. S. Environmental Protection Agency has set maximum contaminant levels (MCL) for a number of chlorinated solvents. The MCL is the amount of a chemical that is considered acceptable in public drinking water supplies. The maximum contaminant level is not binding for users of private supply wells, but is a useful guideline.

Chemical	Maximum Contaminant Level (ppb)	This Well (ppb)
Chloroform	100 ppb (in cities over 10,000 pop. only)	120.4 ppb
bromodichloromethane		54 ppb
dibromochloromethane		1 ppb

( ) This water is acceptable for all uses due to the very low levels present.
( ) Resample in about _____ month(s). (PLEASE INDICATE ON LAB SHEET THAT IT IS A RESAMPLE AND PROVIDE PREVIOUS SAMPLE NUMBER(S).)

(✓) This water is significantly contaminated and should not be used for drinking or cooking. Prolonged bathing/showering should be avoided.

( ) This water is highly contaminated and should not be used for drinking, cooking, or bathing/showering.

Comments: levels are well above EPA limits of 100 ppb for cities over 10,000 pop. - public water supplies. Verification is needed to see if sample is from a public water or private system. If quick, it may be due to recent chlorination. Resample immediately! Continued use of this water may result in an increased health risk over time.

For further information, contact Dr. Ted Taylor or Dr. Ken Rudo, Environmental Epidemiology Branch, (919) 733-3410.

DHS T476 (Revised 5/89)
Environmental Epidemiology Branch